

TAIG

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November 1985

TWIN CITIES ATARI INTEREST GROUP

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Article submission

Articles should be submitted in standard text files (Atariwriter, Hometext, Speedscript) or in Letter Perfect form. If you don't own a word processor, you can enter the Article in BASIC using REM statements. Or, send LEGIBLY (including schematics, we can't reprint what we can't read or reproduce) handwritten or typed text to...

Cory Johnson 1835 Shadyview Circle, Plymouth MN. 55447.

Dave Stengel 3230 Shadyview Lane, Plymouth, MN. 55447

articles can also be dropped off at
Wizard's Work 18th and 36th, New Hope MN.

Twin Cities Atari Interest Group.
3342 Humboldt Avenue North
Minneapolis, Minnesota

Next TAIG meeting

Sunday, November 24

Swap Meet 6:30 P.M.

TAIG 7:00 P.M.

at St. Louis Park Rec Center

5005 West 36th Street.

St. Louis Park MN.

Next NAGS meeting

Wednesday, December 18

NAGS 6:30 P.M.

at User Friendly Computer

8465 Plaza Blvd.

Spring Lake Park MN.

**ATARI®**

Greetings From Florida !!
by Randy Miller

As a new resident to the city of Orlando, I have not yet had a chance to join or visit any of the computer user groups down here. I have found one group called the Central Florida Users Group, but I haven't had a chance to go to one of their meetings.

For those of you who use the bulletin boards up there, these people would put the boards up there to shame. I have never seen download boards so large! I swear they must have one board that has two 10 meg drives, if that's possible. All this on an Atari based board. In case any of you want to know the numbers I'll give you just a few that I have checked out.

All these are area code 305

The Twilight zone 305-831-1613
Doonsbury's 305-658-1425
Rainbow Computer 305-896-6707

The boards here run on FOREM and are not much different than the FOREM boards up there. The log on procedure is the same and you can usually get access in 24 hours.

Another thing I noticed on the Twilight board was when you're entering a message on one of the message bases and you come to the end of the first video line you can just keep entering your message and it will automatically change your line. This means never having to hit return and not having to worry about your message fitting on one line.

There is an Atari store

here but I haven't gotten there yet either. Their name is Rainbow Computer Center. Gawd how I miss User Friendly and Wizard's work!

Now for a serious note:

After Reading Cory's pleas for articles I thought I would try my hand at writtin g one and it wasn't all that bad. And if I can do it from down here, you can do it from up there.

You know the old saying "You don't really know what you got till it's gone." really is true and it would be a shame to come back up for a visit and find that the TAIG group was gone. Also, to just not get a news letter and wonder what the heck happened. With that I'll get off my soap box now.

More later,
Randy Miller

(ed. note)

Well, this seems to have been THE month for articles from our forigen corospondents, so, on with an article from across the Atlantic.

THE LAST STOP BEFORE MOTHER
RUSSIA Continued

A few years ago when the computer craze started in Denmark, I sat down one day and decided the whole thing would most likely pass me by. After all, the question was, what good was a computer ever going to do me. I hoped the entire thing would vanish like a morning haze.

About a year later, a friend (TAIG member Neil Bradley) approached me one day with the idea of loaning me his computer while he was on vacation. He brought it over to my studio and I looked at it for a couple of days. Then one day I plugged it in. I was amazed. But all I could do was play games on it.

So I started to learn what could be done with all the new languages that computers ran on. I'm not speaking of Russian, Hungarian, or Chinese; these languages are harder to really learn than any of those. And since I'm a little older (40) than the teenage computer wizards running around these days, I was living in the dark ages. My first tentative steps into the mysteries of what computers do were absolutely frightening. I feared that I might erase valuable borrowed programs, or that possibly I would destroy my accounts ledger when I fed it into memory. I spent the first six months living in fear of my computer.

As it happened, my friend with a computer happened to own an old Atari, which he loaned me when he bought a new one. In time I bought a newer

one and then one day realized that we had a pretty big investment in our Atari hardware and software. But all I had was a home quality system with very little useable memory. Mostly what I did was to play games, so the system was still on the borderline of being useable.

But I wasn't satisfied. I run a commercial photography studio and the entire accounting system is run through my Atari 1200XL with 64K. It was laborious and involved changing discs rather frequently. And I knew it couldn't go on that way forever. I started by looking around at everybody else's computers. Now I knew quite a bit about computers and they didn't scare me anymore. But their prices did.

One day at Copenhagen's exposition center I ran into somebody I knew from Hewlett-Packard in California. He told me a rumor was moving around Sunnyvale that Atari's new boss, Jack Tramiel, was putting out a business-class computer within a few months. And since I was in the market for a machine of that type, I started nosing around and looking for information. I liked Ataris, I trusted Jack Tramiel, and I didn't think that anybody could make that much fuss in Las Vegas with a computer that would never exist without a pretty good reason.

But by the summer of '85, most of my friends (all victims of advertising from

Continued

Big Blue] had me convinced that I was crazy. If I was to listen to them, I was about to make the biggest mistake of my life. I was trying to be the first guy on my block with an untested, unknown, unproven, disliked in Denmark new computer that was made by a possibly bankrupt company in California. And when you live in the last outpost of civilization before mother Russia, California and Atari service centers are about as far away as the farthest distance you can imagine. Along about this time, I met another guy who was lingering on the fringes of being an ST buyer as well, and we began to plot for the future.

THE LAST OF THE VIKINGS: OLE & HIS ST

Ole had many unhappy experiences with an old Sinclair computer that offered none of the advantages of even the Atari XL line. Nearly every time he used it he became so frustrated that he nearly threw it out the window. But since no really good improvement was available, "I stuck with it for three miserable years. But I simply hated that computer and all the things it wouldn't or couldn't do."

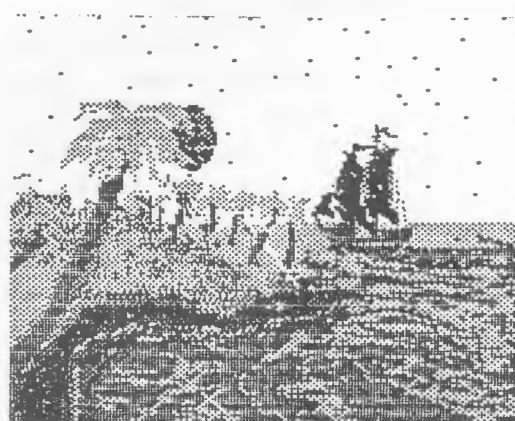
"During the spring of '85, I met the same American fellow (as Jan) who had an Atari 800XL. As we began talking about computers, I realized he was talking about a new kind of Atari that I might be

interested in getting to know about. My uses for the ST were going to be different than Jan's. I want to use the 520ST to educate myself in the conceptual task of creating programs in various computer languages. To return to reality, I want to write games, educational programs, and entry level business programming."

"So when the news of the upcoming 520ST began appearing in European and Danish magazines, I decided to try to get my hands on one. It wasn't easy, but I did it. I have a machine that is so new that I know more about it than the importer. In the end, I had one and they didn't."

"Now there are only a few 520ST owners in Denmark and I think I know nearly all of them. At the moment there isn't very much in the way of software, but that situation will be corrected here reasonably soon. Jan and I both live in Copenhagen and are actively looking for software for the ST. I know that by the time this article comes out, I will have a fully operational 512K computer for less than \$1,000."

Continued



THE ST'S IMMACULATE CONCEPTION

Running around inside the computer industry is a possibly true rumor of just now the 520ST came into being. Many people have said that Jack Tramiel bought Atari from Warner Bros. to get revenge on Commodore. Along with the old Atari Corporation came a huge staff, some of whom would obviously have to go if the company was to stay in business.

If we can imagine the famous 'ST' meeting, it probably went something like this:

"Hi there, my name is Jack Tramiel and I'm your new boss." Jack looks around the room and sees all the tight faces staring back from the most distant corners.

"I'm afraid I have both good news and bad news. The good news is that you R&D folks will be in charge of developing a new computer line for the company. The bad news is that you have thirty days and half of you are going to be fired. Guess which half. If any of you feel you can't do it, now is the time to say so. If so, you're fired as of right now!"

So a couple of guys got out the drawings that had been in a drawer for a few months and showed them to Jack. They had the plans for the future of Atari in their hands. So Jack announced to the world at large that Atari had a new revolutionary computer on the drawing boards and it would be coming out soon.

It wasn't actually in the winter of 1985 that an ST became available for any member of the public or press to see. But in Las Vegas in January of 1985, there was a prototype 520ST. It was the most beautiful Atari ever built.

However, according to Murphy's law, if anything can go wrong, it will. And the new ST line of Atari's seemed to be going against Murphy's law. The ST's introduction date was pushed back and the price went up accordingly. From where I sat worrying in Copenhagen, the ST looked like it might never come out. When it did, it promised to be expensive beyond my wildest nightmares. As the days went by, my 'friends' warned me to get a PC while the going was good. Fortunately, I still had a little faith in Magic Jack, so I hung in there and waited for the mysterious 520ST.

GETTING MY HANDS ON THE ST

Now we've had two 520ST's sitting here for about two months. We've been waiting for nearly a year. But it was worth the wait. The 520ST is nothing short of a giant killer.

I have a friend who recently spent his entire investment fund plus a little more on an Olivetti PC. I think the whole package cost him a little more than \$7,000 (with a discount). And well okay, it is designed in Italy and looks pretty stylish. But for that kind of money, it

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should know how to tie your shoes and send you off to work in the morning with a smile on your face. The other day he was over to say that he had sold the Olivetti at a little loss, after owning it for 45 days. He had a rotten computer experience his first time out and claimed to be "through with computers". Maybe he'll take the ST a little more seriously too.

Roughly a year ago when I was out looking at expensive office/home computers, I found a lot of things that I liked on some machines and hated on others. One of the most important things on any computer is the keyboard. It is very important that there be enough keys to push different types of information around, while not inconveniencing normal operations. And it is important that the keys and ease of operation give the operator a chance to relax his hands and rest once in a while. I found that the best keyboard was the Ericsson, but that it was attached to a \$3,500 computer. Now I have the 520ST and it has the nicest spring loading that you

could ask for in the keys.

Last Friday I had a visitor in my studio who works with Computerland's store here in Copenhagen. For some reason all they sell is IBM and Apple, so you can guess his

reaction when actually faced with the realities of the new Atari. "...but it's nothing but a toy", came the first slice at the ST. "And doesn't Atari only make video games now? I could never sell that one to any businessmen. I'd be laughed out of the store, blah, blah, blah..."

When the incoherent babble died down, I let him know that this toy had only 512K, a GEM in color, and a bunch of accessories as long as both of his arms. It was when I mentioned the 10Mb drive for \$600 that he began to sweat. When I told him of the PC crossover software/hardware coming out of England he was out for the count.

THE ONLY TROUBLE IS...

The only trouble is Atari themselves. For some reason the importer into Denmark isn't quite sure of how to sell or whether to sell the ST line here at all. They claim that since Atari only has provided a 25% profit margin it isn't really worth selling. Atari has made no attempt to provide (as far as we can tell) any marketing support for the ST line in Scandanavia. If they ever do, Big Blue better watch their back.

So now I have a computer that costs substantially less than the competition and which the average computer user would probably give their eye teeth to own. The only problem

Continued

with it now is that I have very little software. But that problem will most likely solve itself within a short while. In fact one thing I would like is to hear from TAIG ST owners (through Neil Bradley, who is my TAIG contact) about public domain software which may be coming available in the future.

So far I love my 520ST. It is creating something of a fuss here in Copenhagen. People looking at PC's call once every few days to ask if they can come see it. It's a little like having a rare object on display. Even Computerland has called back to see if they can send over a couple of the guys to see it do some tricks. I feel like I'm out at the new frontier.

And the 520ST is my ticket to the future.

contributed by Jan W Faul
Rainbow Studio
Vesterbrogade

17

Copenhagen

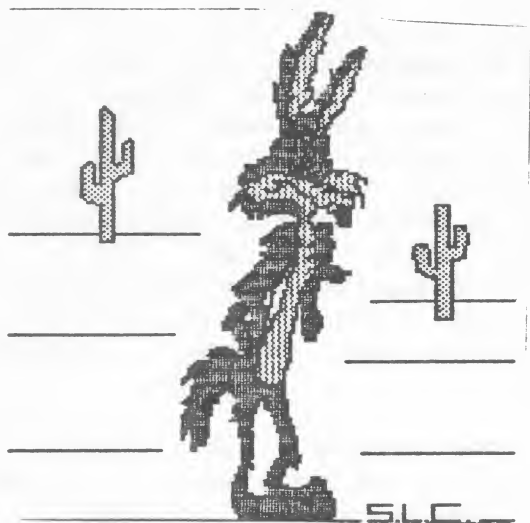
1620V DENMARK

I am a would-be TAIG member if I lived in the right place at the right time. I would like to join TAIG in strictly an observer basis, as it will be a little hard for me to attend monthly meetings after we crashed the last company jet while trying to cross the Urals in hopes of trying to find a shortcut to America. All aboard were killed in the crash, I'm afraid, including myself. However, if you feel like spending a little time and an unreasonable amount of money, you may speak with my former self by calling: 011+45+1+211-999.

Express 1030

How many public domain programs have you seen get individual reviews? (Bob Floyd's Bear Essentials deserved one but, unfortunately, never got it.) Well, Express 1030 is that good.

Remember when you bought your 1030 modem, if you bought the package that I did, you got the 1030, a couple of extra public domain programs, and some time on CompuServe and the Source. The only experience I had had with modems previous



to my purchase was a Hayes, with 110, and 300 baud capability on an Apple. For some odd reason I expected the 1030's terminal software to be equivalent to the software that was driving the Apple and the Hayes. WRONG! The Apple program allowed pulse/tone dialing, autodial directories, macros, and 1,000,001 bells and whistles. The 1030 came with Modemlink. A very nice program, except it couldn't download. Then there was Amodem 4.2 (I don't even want to talk about it). I accumulated 5 or 6 different R-handler's, worked my way up to Amodem 7.0, and grumpily stated "Who needs the macro's and tone dialing anyway!" (Actually Amodem 7.0 is a really nice program which I also highly recommend.)

Express 1030 makes my lowly \$80 modem one of the best on the market.

Well, I can see you all saying, "Yea, well what makes it so great?" Well, it allows Macros (SHIFT+CTRL+1 or 2) for automatic password entry. It also allows auto-redialing of numbers, AND it allows you to mark any boards, which it will then alternate in dialing until it connects. It uses "straight" X-modem protocol, and I've never had any problem with downloading. The ring delay rate can be manually set, allowing you to set how long it waits for an answer. Oh, Tone dialing. Something so simple can make such a difference. There so many other

features in the program, but I don't have space to hit them now.

Express 1030 was written in ACTION! and compiled into assembly language. It can be named Autorun (so it'll load automatically at boot up), it automatically loads the T-handler out of the 1030, so no more R-handler's to mess with.

Currently, it is up on the BBS (473-2897) and is definitely worth the download time, if you own a 1030, check this program out.

Notes from the Editor

Well, we certainly got an article this month, I'd like to thank everyone who contributed to the newsletter, and, those who did are eligible for a free disk of the month. I'm not sure how you'll go about collecting it, but...

I'd really like to know what you thought of the format we experimented with this month. The entire newsletter would have been done in that font, except I ran out of paper. We used a 1020 color plotter to print the first section of the newsletter, and, then had to switch back to the Epson. If you prefer the font from the 1020, we can certainly adopt it, but, we have to know if you like it. We can't cram as much onto a page using this format, so, if we don't hear anything by the next newsletter, we will go back to 3 column, 36 character per column, compressed mode.

As always, we still need articles. We received 2 this month, next month I'd like to have 3. Just because I'm not griping about it on every page, doesn't mean we still don't need them.

Continued

A very BIG thank you to Peter Armstrong, who helped me re-type the reprints. The guy doesn't even own an Atari and he was still willing to help (he owns the Apple mentioned in the Notes from the Sysop). Just goes to show you that not all Apple users are rugs, and that not all Apple BBS's are Appleslime.

Well, I'll see you at the meeting, remember to write an article this month.

Cory Johnson

Notes from the Pres.

Highlights of the next meeting will be the swap meet at 5 PM and the Amiga demo at 7 PM. That's right Amiga will be demoed after all. DRI has released its new version of GEM after caving into Apple. Some of the visual changes include using a dark boarder instead of inverse video on selected icons, no more animation sequences (kill joys) and no trash can (you have to use a delete option from the desktop menu). So far no word as to if Atari will be using the new version of GEM or not.

Three big surprises from Atari.

One, Atari has supplied ST owners thru its dealers ST Writer and Neo-Paint. ST Writer is an upgraded Atari Writer which is compatible with the old Atari Writer and its files. It comes with a 38 page manual on disk, which is very complete. Neo is the Paint program used to create many of the pictures you've seen on the ST. Both of these programs are very good and complete.

Two, I received by ST Basic complete with bound manual in the mail. This after rumor had it that it wouldn't be coming at all. Again it looks like a good product and keeps Atari's promise of supplying both Logo and Basic for the ST.

Three, Atari has come out with a limited run of 500 20 Megabyte hard disk drives which will be sold to developers first. Price? don't know yet.

Now for the test. What is the prevailing theme thru out what's been happening with Atari lately? Well their motto Power without the Price still holds, but you could add Firmware not Vaporware or Products not Promises.

See you at the meeting
Dick Johnson

News and Rumors
Taken from ABLE AID
October, 1985

The XM301 modem (\$50) is scheduled for imminent release. This pocket sized autodial/autoanswer modem plugs into the serial port and the phone line. Included is XETERM, written by Russ Wetmore.

The Learning Phone (\$25) is also scheduled for imminent release. This cartridge will turn the Atari into a Plato terminal. One years subscription and one hour of free connect time is included.

Hmm, semi-conflicting information. According to GTIA's November newsletter, DataSoft filed for chapter 11 (reorganization), BUT Gillette appears to have the choice filing chapter 11 themselves, or sell of Datasoft. According to ABLE AID, Datasoft filed for chapter 7 (liquidation of all assets). Well, no matter what happened, all of DataSoft's software (including Dallas Quest, Micro Painter, Bruce Lee, and Letter Wizard) will become more difficult to find, and it looks as if Alternate Reality will not make it to the store shelves.

LESSON FIVE:

INDEX REGISTERS & LOOPING

We are now going to expand the model of the 6502 that you have been using. Until now, the 6502 I have described had nothing more than a status register, program counter, and accumulator. Now I am going to reveal the existence of two new registers in the 6502: the X- and Y-registers.

These two registers are eight-bit registers just like the accumulator. You can load numbers into them and store them out just as you can with the accumulator. You cannot do arithmetic or Boolean operations with them as you can with the accumulator. But you can do a number of very special things that greatly increase the power of the 6502.

Let's start with the simple move instructions. The first are LDX and LDY, which load the X- and Y-registers the same way that LDA loads the accumulator. Then there are STX and STY, which store the X- and Y-registers the same way that STA stores the accumulator. There are also four commands for transferring bytes between registers; these are TAX (transfer A to X), TAY (transfer A to Y), TXA (transfer X to A), and TYA (transfer Y to A).

Then there are four special instructions that you will use very often. These are INX and INY, which increment (add one to) the X- and Y-registers, and DEX and DEY, which decrement (subtract one from) the X- and Y-registers.

Finally, we have the CPX and CPY commands, which compare X or Y with the operand of the instruction. These two instructions operate in exactly the same way that the CMP instruction works, except that they use the X- and Y-registers instead of the accumulator.

What are these two registers used for? Well, they are sometimes used as temporary registers. If you are in the middle of a lengthy computation, and you need to save a value currently in the accumulator to make room for something else, the X- and Y-registers are a handy place to stuff values away for temporary storage. Programmers do this all the time.

However, temporary storage is not the real purpose and value arise from their utility as index registers. Index registers go hand in hand with loops; the best way to show you how they are used is to dump the whole schmeer at once and then explain it.

So consider the following problem: your program

has to deal with the possibility of user errors. Suppose you require the user to type in a file name for your program to read. What happens if this file is not on the disk? You have to put an error message on the screen that says, "FILE NOT ON DISK!" How do you print the message? Here's a sample bit of code that will do it:

```
LDX  #(ENDMSG-ERRMSG-1)
LOOP1 LDA  ERRMSG,X
STA  SCREEN,X
SEC
SBC  #$20
DEX
BPL  LOOP1
JMP  ELSNHR
ERRMSG DB  'FILE NOT ON DISK!'
ENDMSG DS  1
```

Let's take apart this code and explain it step by step. First thing we do is load the X-register with the number of characters (minus one) in the message. The expression (ENDMSG-ERRMSG-1) will calculate that length at assembly time. This turns out to be 17 characters long. If we were pedestrian about it we could have just written LDX #16, but this way, if we decide to change the message we don't have to remember to go back and change the LDX command. Neat, huh?

OK, so now we have a 16 in the X-register. Now the 6502 comes to the next command -- LDA, ERRMSG,X. This command tells it to load the accumulator with the byte at (address ERRMSG, indexed by X). What this means is as follows: the 6502 will take the address ERRMSG and add the value of the x-register to that address. It will then go to the address so calculated and load the accumulator with the contents of that address. Since X contains a 16, the 6502 will go to the 16th byte after the first byte in the table ERRMSG. If you count characters, you will see that the 16th byte is the exclamation point. So the 6502 will load the ASCII code for an exclamation point into the accumulator.

The next two instructions (SEC, SBC #\$20) are necessary to correct for the Atari's nonstandard handling of ASCII codes. They make sure that the exclamation will be printed on the screen as an exclamation point.

The next instruction (STA SCREEN,X) stores the result indexed by X. The 6502 will add the contents of X (still 16) to the address SCREEN. It will then store the contents of the accumulator into that address. If that address is part of screen RAM, then you will see an exclamation point appear on the screen.

The next instruction that the 6502 encounters is the DEX instruction. This instruction subtracts one from the X-register, making it a 15.

Next, the 6502 comes to the instruction BPL, LOOP 1. This will branch if the N-flag is clear. The value of the N-flag is affected by a DEX instruction. The value of bit D7 of the result is transferred to the N-flag. Bit D7 of 15 is a zero, hence the N-flag is clear, hence the 6502 will indeed take the branch. Note that it branches back up to LOOP 1.

Now it will repeat the process, only this time X contains a 15, not a 16. It will therefore grab the 15th character, an ASCII 'K', and store that to the screen position just before the exclamation point. Then it will subtract one from X to get a 14, and will continue the loop.

This process will continue, with the 6502 grabbing bytes in reverse order from the table and storing them onto the screen, until after the 6502 does the seroth byte. When X contains a zero, and the 6502 executes a DEX, it obtains the result \$FF. This sets the N-flag. When the 6502 encounters the BPL command, it will NOT take the branch; instead, it will skip the branch and go on to the JMP statement. The loop is terminated.

In this one fragment of code you have seen two major ideas: indexed addressing and looping. They are so closely related that it is hard to talk about one without talking about the other.

You can use indexed addressing with either the X-register or the Y-register. You most commonly use indexed addressing with the LDA and STA commands, but you can also use it with many of the other 6502 commands: ADC, SBC, CMP, AND, ORA, EOR, LSR, ROR, ADL, and ROL can all be used with indexed addressing. Indexed addressing allows you to work with tables or arrays of data.

There is one ugly catch: all of your arrays must be less than 257 bytes long, because the index registers are only eight bits wide. Most of the time this is not a serious problem. However, if you must address a larger table or array, you can use indirect addressing. To do this, you calculate the address that you desire to access, store that address in two contiguous bytes on page zero (low, then high) -- we call these two bytes a pointer -- and then refer to the pointer like so:

```
LDA (PTR), Y
```

This instruction will take the address out of pointer, add the value of Y to it, and load the accumulator with the contents of the address so calculated. If PTR contains \$4567 and Y contains a 2, then the 6502 will load the accumulator with the contents of address \$4569. You are still restricted by the size of Y, but you can always go back and change the PTR if you need to span larger arrays. In this case, you frequently just leave Y equal to zero and do all of your indexing directly with changes to PTR.

The last topic I will take up is termination techniques. Every loop must somehow be terminated if you are to avoid the problem of the Sorcerer's Apprentice. You will note that the programming example I gave used a rather odd approach. I started at the end of the array and worked backwards. Why not start at the beginning and work forwards? It's slightly more efficient going backwards than forwards. When you go forwards, you have to terminate the loop with:

```
INX
CPX #17
BNE LOOP1
```

Whereas when you go backwards, you need only use:

```
DEX
BPL LOOP1
```

Going backwards you save one instruction. However, if this confuses you, feel free to count forward; that works, too, only it's a little less efficient.

There is also a problem on choosing whether to BNE or BPL. BPL restricts you to a range of only 127 bytes, but BNE, but index from ERRMSG-1 and SCREEN-1 instead of ERRMSG and SCREEN.

There are lots of other sneaky ways to terminate loops, but they fall into advanced topics.

ST USER GROUP NEWS by Dick Johnson

Two ST User groups have already been formed, both called STAG. The oldest is the ST Access Group run by Steve Pauly and Todd Burkey (Their the Mindtools people who you see at the meetings). This is a loose group made up of people who bought their ST's from Mindtools and other places and even some who haven't even got one yet. They call everyone in the group whenever they feel that they have enough Public Domain stuff available to make for an interesting gathering, which they then sell for the cost of the disks on which its copied. Mindtools of course has software available for sale at very reasonable prices. If your interested call Todd at 542-1027 to get on the phone list or for more information.

The other informal ST User Group called STAG is the ST Atari user Group. It meets the 1st Wednesday of every month at User Friendly at 7PM, Tom Tolstead (phone 425-9409) is the unofficial leader of the Group. If you come be sure to bring own chair or be ready to stand. They are planning a BBS but it will be available to members only for the time being and only after hours. Dues? None yet. Public Domain Software? You copy it yourself after the meeting. Disks of course are available from User Friendly. Drop in and give it a try.

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